

### REMARKS/ARGUMENTS

Favorable reconsideration of this application, in light of the following discussion, is respectfully requested.

Claims 1-5, 7, 8, and 10 are pending; Claims 5 and 8 are amended; no claims are newly added or canceled herewith. It is respectfully submitted that no new matter is added by this amendment, as only minor matters of form were addressed in the amendments to Claims 5 and 8.

In the outstanding Office Action, Claims 5 and 7 were rejected under 35 U.S.C. § 103(a) as unpatentable over Saijo et al. (U.S. Pat. No. 4,825,241, hereafter Saijo) in view of Shoji et al. (U.S. Pat. No. 5,937,228, hereafter Shoji); and Claims 8 and 10 were rejected under 35 U.S.C. § 103(a) as unpatentable over Nagao (U.S. Pat. No. 5,991,586) in view of Shoji.

As previously explained by the Applicants, an “edge effect” and “granularity” are problems present in the prior art (see page 3, lines 23-25). It is therefore an object of the present invention to free an image from the problems of granularity and the omission of a trailing edge (page 4, lines 21-23).

To this end, Claim 5 recites a ratio of a shortest distance between the image carrier and the developer carrier to a shortest distance between the developer carrier and a metering member, which regulates the developer (also referred to as the  $G_p/G_d$  ratio), is smaller than 0.8, in combination with an AC bias. As previously set forth by the Applicants, the specification provides clear evidence of unexpectedly superior results for the claimed subject matter.

More specifically, Figure 14 illustrates the unexpected results of the claimed  $G_p/G_d$  ratio in combination with the AC bias. As set forth in Figure 14, the  $G_p/G_d$  ratio was varied, both with and without AC bias (page 44, lines 18-21), and Figure 15 sets forth examples in

which a conventional magnet roller was used (page 45, lines 7-10). Using only a DC bias, the granularity rank did not exceed 1.5 for any of the tests in Figure 14 (and did not exceed 1 in Figure 15). Even when an AC bias was applied, the granularity rank for the first eight tests (within the claimed  $G_p/G_d$  ratio) was 4.5 – 3.5, whereas the granularity ranks for the last two tests (outside the claimed  $G_p/G_d$  ratio) were 3 and 2, respectively. **Thus, it is evident from the specification that superior results are derived from the claimed combination of the  $G_p/G_d$  ratio and AC bias**, and any *prima facie* case of obviousness for Claim 5 is overcome thereby.

Claim 8 recites a ratio of the shortest distance between the image carrier and the developer carrier to the amount of the developer scooped up to the image carrier (i.e., the  $G_p/\rho$  ratio) is smaller than  $10 \text{ mm/gcm}^2$ , under the condition of an oscillating bias. As illustrated in Figure 16, the tests in which an AC bias is present (in combination with the claimed  $G_p/\rho$  ratio) provide unexpectedly improved results. **As set forth in Figure 16, when an AC bias is combined with the claimed  $G_p/\rho$  ratio (in the first six tests of Figure 16), a granularity rank of 4 or higher is obtained, as compared with granularity ranks of 3.5 or less in the comparative examples.** In light of these unexpectedly superior results set forth in the present specification, it is respectfully submitted that any *prima facie* case of obviousness with regard to Claim 8 is overcome.

However, the outstanding Office Action indicates at page 3 that the outstanding rejections are not overcome because (1) superior results disclosed by the Applicants in the specification are not compared with the closest prior art and (2) the results are not unexpected. Applicants respectfully disagree.

With regard to the assertion that the superior results disclosed by the Applicants are not compared with the closest prior art, Figures 14-17 illustrate the claimed  $G_p/G_d$  ratio, both with and without an AC bias, and the claimed  $G_p/\rho$  ratio with an AC bias, respectively.

Because the claimed parameters ( $G_p/G_d$  ratio with an AC bias, and the claimed  $G_p/\rho$  ratio with an AC bias) were varied both in and out of the claimed ratios, and the results set forth show the advantages of the particular claimed ratios *combined with an AC bias*, it is respectfully submitted that the unexpected results result from a comparison of the closest image forming techniques available.

If the Examiner disagrees, the Examiner is respectfully requested to clarify what prior art techniques would be more suitably compared against the claimed parameters, so that the Applicants may prepare the appropriate experimental data and declarations.

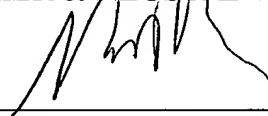
Regarding the assertion that the Applicants' results are not unexpected, the Applicants respectfully disagree. There is no teaching or suggestion in any of the cited references that any type of  $G_p/G_d$  ratio with an AC bias or any type of  $G_p/\rho$  ratio with an AC bias would be beneficial. In the absence of such disclosure or suggestion, it is respectfully submitted that the unexpected results obtained by the Applicants are not obvious in light of the cited references.

With regard to the double patenting rejection of Claims 1-4 as unpatentable under the judicially created doctrine of obviousness-type double patenting as unpatentable over Claims 1-4 of U.S. Pat. No. 6,456,806 in view of Shoji, Applicants have filed herewith a Terminal Disclaimer against U.S. Pat. No. 6,456,806. It is therefore respectfully submitted that this rejection is overcome.

Consequently, in view of the foregoing discussion, it is respectfully submitted that this application is in condition for allowance. An early and favorable action is therefore respectfully requested.

Respectfully submitted,

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